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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,613	08/05/2003	Takashi Nakasai	F-7921	6598

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EXAMINER

JOHNSTONE, ADRIENNE C

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/634,613

Applicant(s)

NAKASAI ET AL.

Examiner

Adrienne C. Johnstone

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 07/503,391.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 07/503,391, filed on April 2, 1990.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: RADIAL-PLY TIRE WITH SPECIFIED BELT STRUCTURE.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

To provide proper antecedent basis as in the grandparent application 08/890,730 and to eliminate the confusing period in the body of claim 1 as in the grandparent application 08/890,730 applicants should make the following amendments to the claims.

claim 1

rewrite as --

1. (amended) A radial-ply tire comprising:
a carcass with a tread provided over the carcass;

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a belt [consisting of] including four or more belt plies interposed between [a] said carcass and [a] said tread, said belt plies having edge ends between which widths of said belt plies are defined;

[with the interposition of pad] rubber pads interposed between said edge ends and said carcass for isolating said edge ends of said belt plies from said carcass[, wherein the];

said belt plies including an outermost belt ply having an outermost belt ply width TBW [is larger than the] and an adjacent ply having a width NBW [and the value of];

a parameter K [given by the following equation is] having a value not less than 0.1 and not more than 0.4[.], wherein K is defined by the following equation

$$K=(MBW-TW)/(OW-TW)$$

where MBW is [the] a maximum belt ply width of said belt plies, OW is [the] a maximum tire width of the radial ply tire, and said tread has a tread width TW [is the tread width].

-- .

claim 3

rewrite as --

3. (amended) The radial-ply tire of claim 1, wherein sidewalls of tire shoulders are elevated on the] the tire has a shoulder having a side wall provided with a raised portion about an imaginary extension of the belt intersecting the side wall.

-- .

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keefe, Jr. (3,205,931) in view of Mirtain et al. (Re. 30,549), Mirtain (3,982,579), Tomoda et al. (4,282,918), Iwata et al. (4,702,293), and Suzuki et al. (4,716,951).

Keefe, Jr. discloses a pneumatic radial tire whose belt is composed of four plies whose ply width successively increases from the narrow inner ply to the widest outer ply in order to reduce tire wear in the shoulder areas (col. 2 lines 31-41). Mirtain et al. teach that belt plies should be wider than the tread in order to remove belt edges from the higher stress area radially inward of the tread and to avoid improper positioning of the plies (col. 5 lines 7-22), and the reference gives guidelines for the widths of the tread and belt as a function of tire width that suggest applicants' variable range (col. 5 lines 22-31). For example, with the suggested tread width of 68% of the tire width, the maximum belt width is approximately 70% to 95% of the tire width; this gives a range of $K = (MBW - TW) / (OW - TW) = \{(0.70 OW \text{ to } 0.95 OW) - 0.68 OW\} / (OW - 0.68 OW) - 0.1 - 0.8$, overlapping applicants' range 0.1-0.4. Mirtain et al., Mirtain, Tomoda et al., Iwata et al., and Suzuki et al. are examples of the conventional technique of providing a rubber cushion between the belt ends and the carcass of a tire. It would therefore have been obvious to one of ordinary

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skill in the art to extend the width of the belt plies and/or reduce the width of the tread of the Keefe, Jr. tire according to the guidelines taught by Mirtain in order to obtain the advantages noted above, and to provide such a conventional rubber cushion between the belt ends and the carcass of the tire. As to claim 3, Mirtain teaches to provide bulges at the tire shoulders around an imaginary extension of the belt, in part to cover the belt edges with sufficient rubber (col. 4 line 51 - col. 5 line 14); it would therefore have been obvious to one of ordinary skill in the art to provide the above tire with such bulges in order to cover the belt edges with sufficient rubber.

8. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura (4,633,926) or, alternatively, Tamura et al. (4,446,905), in view of Mirtain et al. (Re. 30,549), Mirtain (3,982,579), Tomoda et al. (4,282,918), Iwata et al. (4,702,293), and Suzuki et al. (4,716,951).

Applicants' belt ply structure (outermost belt ply width TBW, adjacent belt ply width NBW) is a conventional structure for radial tires, as evidenced by Tamura '926 (embodiment of Figure 1) and Tamura et al. (embodiment of Figure 1) for example. Mirtain et al. teach that belt plies should be wider than the tread in order to remove belt edges from the higher stress area radially inward of the tread and to avoid improper positioning of the plies (col. 5 lines 7-22), and the reference gives guidelines for the widths of the tread and belt as a function of tire width that suggest applicants' variable range (col. 5 lines 22-31). For example, with the suggested tread width of 68% of the tire width, the maximum belt width is approximately 70% to 95% of the tire width; this gives a range of $K = (MBW - TW) / (OW - TW) = [(0.70 OW \text{ to } 0.95 OW) - 0.68 OW] / (OW - 0.68 OW) = 0.1 - 0.8$, overlapping applicants' range 0.1-0.4. Mirtain et al., Mirtain, Tomoda et al., Iwata et al., and Suzuki et al. are examples of the conventional technique of providing a rubber cushion between the belt ends and the carcass of a tire. It would therefore have been obvious to one of ordinary skill in the art to provide a prior art radial tire with such a conventional belt

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structure, to extend the width of the belt plies and/or reduce the width of the tread according to the guidelines taught by Mirtain in order to obtain the advantages noted above, and to provide such a conventional rubber cushion between the belt ends and the carcass of the tire. As to claim 3, Mirtain teaches to provide bulges at the tire shoulders around an imaginary extension of the belt, in part to cover the belt edges with sufficient rubber (col. 4 line 51 - col. 5 line 14); it would therefore have been obvious to one of ordinary skill in the art to provide the above tire with such bulges in order to cover the belt edges with sufficient rubber.

Conclusion

9. This is a continuation of applicant's earlier Application No. 10/010219. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adrienne C. Johnstone whose telephone number is (571)272-1218. The examiner can normally be reached on Monday-Friday, 10:30AM-7:00PM.

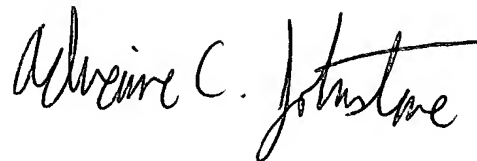
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571)272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Adrienne C. Johnstone
Primary Examiner
Art Unit 1733

Adrienne Johnstone

June 27, 2004

A handwritten signature in black ink that reads "Adrienne C. Johnstone". The signature is written in a cursive style with a large, stylized initial 'A'.